

154N Constant Voltage



- 316L SS Pressure Sensor
- 19mm Diameter Package
- 0 - 100mV Output
- Absolute and Gage
- Temperature Compensated



DESCRIPTION

The 154N constant voltage is a 19 mm small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 154N constant voltage is designed for o-ring mounting and OEM applications where compatibility with corrosive media is required.

The sensing package utilizes silicone oil to transfer pressure from the 316L stainless steel diaphragm to the sensing element. A ceramic substrate is attached to the package that contains laser-trimmed resistors for temperature compensation and offset correction.

Please refer to the 154N uncompensated and compensated datasheets for more information on different features of the 154N.

FEATURES

- O-Ring Mount
- -40°C to +125°C Operating Temperature Range
- Up to $\pm 0.1\%$ Pressure Non Linearity
- Solid State Reliability

APPLICATIONS

- Medical Instruments
- Process Control
- Fresh & Waste Water Measurements
- Refrigeration/Compressors
- Pressure Transmitters
- Hydraulic Controls

STANDARD RANGES

Range	psia	psig
0 to 1		•
0 to 5	•	•
0 to 15	•	•
0 to 30	•	•
0 to 50	•	•
0 to 100	•	•
0 to 300	•	•
0 to 500	•	•

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PERFORMANCE SPECIFICATIONS

Supply Voltage: 10Vdc

Ambient Temperature: 25°C (unless otherwise specified)

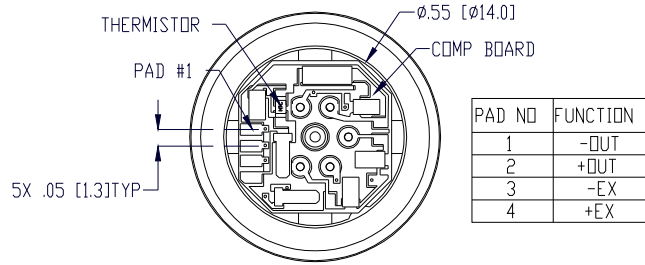
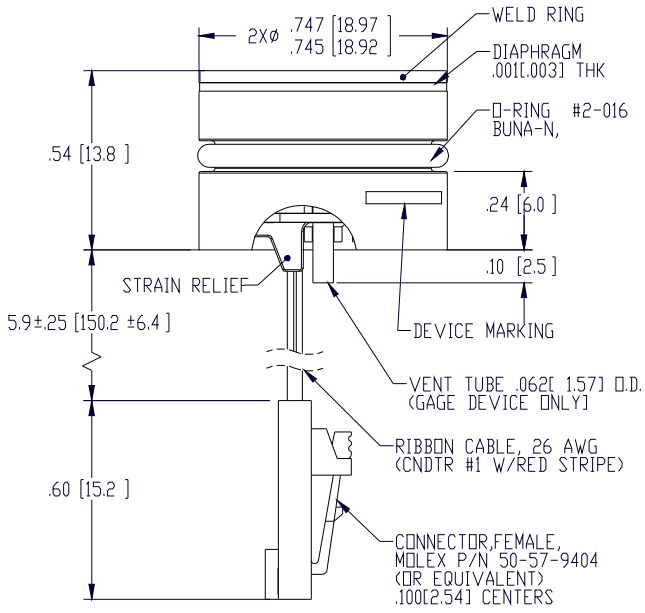
PARAMETERS	≤005PSI			≥015PSI			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX		
Span		1psi: 77, 80, 83 5psi: 98, 100, 102		99	100	101	mV	
Zero Pressure Output	-2.0	0	2.0	-1.0	0	1.0	mV	1
Pressure Non Linearity		1psi: -0.30 to 0.30 5psi: -0.20 to 0.20		-0.10		0.10	%Span	2
Pressure Hysteresis	-0.10	±0.02	0.10	-0.05	±0.02	0.05	%Span	
Repeatability		±0.02			±0.02		%Span	
Input Resistance	5.5	9.0	12.5	5.5	9.0	12.5	KΩ	
Output Resistance	4.0		7.0	4.0		6.0	KΩ	
Temperature Error – Span	-1.0		1.0	-1.0		1.0	%Span	3
Temperature Error – Offset	-1.0		1.0	-1.0		1.0	%Span	3
Thermal Hysteresis – Span	-0.25	±0.05	0.25	-0.25	±0.05	0.25	%Span	3
Thermal Hysteresis – Offset	-0.25	±0.05	0.25	-0.25	±0.05	0.25	%Span	3
Long Term Stability – Span		±0.10			±0.10		%Span/Year	
Long Term Stability – Offset		±0.25			±0.10		%Span/Year	
Supply Voltage		10	14		10	14	V	4
Output Load Resistance	5			5			MΩ	5
Insulation Resistance (50Vdc)	50			50			MΩ	6
Output Noise (10Hz to 1KHz)		1.0			1.0		uV p-p	
Response Time (10% to 90%)		0.1			0.1		ms	
Pressure Overload		1psi: 10X max 5psi: 3X max				3X	Rated	
Pressure Burst		1psi: 12X max 5psi: 4X max				4X	Rated	7
Compensated Temperature		1psi: 0 to 50 5psi: 0 to 70		-20		+85	°C	
Operating Temperature	-20		+70	-40		+125	°C	8
Storage Temperature	-40		+125	-40		+125	°C	8
Media – Pressure Port	Liquids and Gases compatible with 316/316L Stainless Steel							
Media – Reference Port	Compatible with Silicon, Pyrex, Gold, Fluorosilicone Rubber, and 316/316L Stainless Steel							

Notes

1. Measured at vacuum for absolute (A), ambient for gage (G).
2. Best fit straight line.
3. Over the compensated temperature range with respect to 25°C.
4. Guarantees output/input ratiometricity.
5. Load resistance to reduce measurement errors due to output loading.
6. Between case and sensing element.
7. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
8. Maximum temperature range for product with standard cable and connector is -20°C to +105°C.

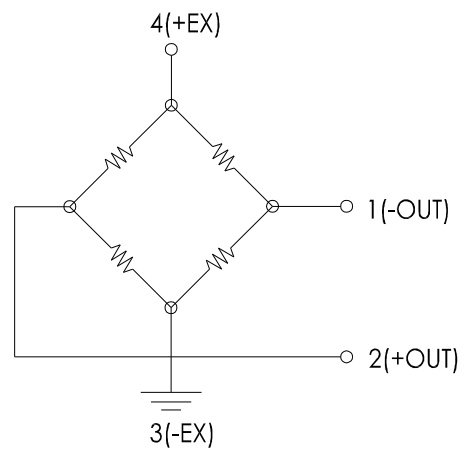
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DIMENSIONS



VIEW SHOWN W/O CABLE AND CONNECTOR FOR CLARITY
DIMENSIONS ARE IN INCHES [mm]

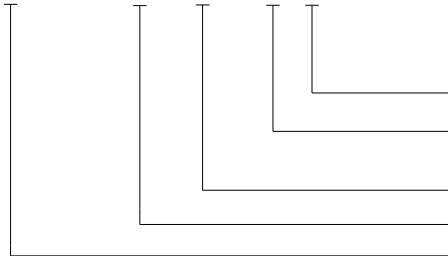
CONNECTIONS



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ORDERING INFORMATION

154CV - 050 G - C T



Vent (T = Tube, Blank = No Tube)

Electrical (C = Ribbon Cable with Connector, R = Ribbon Cable)

Type (A = Absolute, G = Gage)

Pressure Range

Model

NORTH AMERICA

Measurement Specialties
45738 Northport Loop West
Fremont, CA 94538
Tel: 1-800-767-1888
Fax: 1-510-498-1578
Sales: pfg.cs.amer@meas-spec.com

EUROPE

Measurement Specialties
(Europe), Ltd.
26 Rue des Dames
78340 Les Clayes-sous-Bois, France
Tel: +33 (0) 130 79 33 00
Fax: +33 (0) 134 81 03 59
Sales: pfg.cs.emea@meas-spec.com

ASIA

Measurement Specialties
(China), Ltd.
No. 26 Langshan Road
Shenzhen High-Tech Park (North)
Nanshan District, Shenzhen 518057
China
Tel: +86 755 3330 5088
Fax: +86 755 3330 5099
Sales: pfg.cs.asia@meas-spec.com

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